**Procedures**  
1. a. Have students roll each color of play dough, forming a flattened pancake about 10 cm. (or 4 inches) in diameter and 1 cm (or 1/3 inch) thick. The greater the diameter and the thinner the layers, the more easily the model can be folded.   
b. Stack the layers on top of each other. It doesn't matter in which order the colors are stacked.   
c. Observe the layers from the side; the layers should look flat.  
d. Draw a side view of this model of unfolded layers in their Mountain Building Journal on page 7.

1. Now, we will simulate compression: Put your hands, one on either end of the play dough layers so that you can squeeze it along its longer axis. Gently push your hands together causing the play dough layers to fold and buckle. Try to make at least one upward fold **(anticline)** and one downward fold (**syncline**).   
   a. What might cause similar compression to occur to the earth's crust? (Answer: ­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   b. Where that might occur: (Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)   
   c. Draw the folded model on page 7 of the journals.
2. Cut off the top off of their folded mountains to model surface erosion, discuss what you observe, and draw and label what they you on page 7 in their journals.   
   **Note:** Repeating bands of sedimentary layers, such as in this model, when found at the surface of the earth tell a geologist that they have found an eroded fold.
3. Try cutting their mountain any way they choose (as long as it is different than the views you already have). Draw and label what they see on page 8 in their journal. Folding, faulting, and erosion can produce unpredictable results. A geologist uses the structures they see to interpret the history of the rocks.
4. Look at the images of the [Folded Rocks Photos](http://www.teachingboxes.org/mountainBuilding/lessons/foldImages/index.html" \t "_blank) . These can be accessed directly from the [Mountain Building Student Web page](http://www.teachingboxes.org/mountainBuilding/lessons/studentPage.jsp" \t "_blank).

Compare to your models.

1. Complete the Review and Reflection questions on page 8 of your journal.

**Optional questions for class discussion: NEED TO BE ABLE TO ANSWER**  
Ask students what they think would happen if they had rocks that were less squishy and more brittle than play dough? When the rocks got squeezed, they might actually break instead of just bend. Tell them that natural mountains do both. Sometimes they bend and sometimes they break. The breaks are called faults, and faults that move because of compression are called "thrust faults." We therefore call this type of mountains "fold-thrust mountains" – the mountains both fold and have breaks called thrust faults.